

REMARKS

Status of the Claims

- Claims 1-25 are pending in the application.
- Claims 1-5 and 12-22 are withdrawn from consideration.
- Claims 6-11 and 23-25 are rejected by the Examiner.

Claim Rejections Pursuant to 35 U.S.C. §102

Claims 6-8 stand rejected pursuant to 35 U.S.C. §102(e) as being anticipated by US Pat Publication No. 2001/0022558 to Karr. Applicant respectfully traverses the rejection.

Karr discloses “ A Wireless Location System Using Signal Fingerprinting” as described in the title. The Office Action dated 12/20/06 indicates that Karr, at paragraph 0448-0449 teaches that a determination of the location of a MS (mobile station) may be made at either a BS (base station) or a MS. Applicant agrees. However, the full teaching of Karr, in context must also be considered. Karr, in paragraphs 0442-0049 addresses how a target MS can interact with an active set of base stations, a candidate sets of base station, a neighboring sets of base stations, all of which are known to the target MS, and use signal characteristic measurements, (e.g. TOA and/or TDOA measurements) and arrive at multiple estimates of locations using the signal fingerprinting scheme. (See paragraphs 0442-0449)

Applicant respectfully suggests that the “signal characteristic measurements” themselves are used as an input to estimate multiple possible locations of the MS in Karr using the signal fingerprinting scheme. That is, in Karr, location data (location estimates) are determined using signal characteristic measurements interactively with various base stations and then Karr performs a computation, (either in a base station or a MS) to determine multiple estimates of the MS location. However, Claim 6 recites a different functionality for the location system which is located within the handheld mobile telephone unit.

Claim 6 recites, in relevant part:

“A subscriber handheld mobile telephone unit..., the handheld mobile telephone unit comprising;

an operating system...;

call quality data components to determine at least one call quality metric, and
a location system, comprising hardware and software that determine a location of the handheld mobile unit in compliance with enhanced 911 ("E911") requirements, wherein the location system within the handheld mobile telephone unit carried by the subscriber;
receives a query..., wherein the query includes a request for call data and location data...; and
transmits the location data and the call quality metric to the mobile switch center in response to the request..." (Parts of Claim 6)

Applicant respectfully submits that the handheld mobile telephone unit having an internal location system of Claim 6 conducts functional operations differently than that of the signal fingerprinting method taught by Karr. The Office Action dated 12/20/06, page 4, indicates that Karr paragraph 0224 teaches the functionality of the location system in Claim 6. Applicant respectfully disagrees that paragraph 0224 of Karr teaches the Claim 6 functional constraints on the claimed location system. Applicant notes that Karr explicitly outlines the method of obtaining location information in paragraph 0224, which states:

"This enhanced capability is provided via a control message, sent from the Location center 142 to the mobile switch center 12, and then to the base station(s) in communication with, or in close proximity with, mobile stations 140 to be located. Two types of location measurement request control messages are needed: one to instruct a target mobile station 140 (i.e., the mobile station to be located) to telemeter its BS pilot channel measurements back to the primary BS 122 and from there to the mobile switch center 112 and then to the location system 42. The second control message is sent from the location system 42 to the mobile switch center 112, then to first the primary BS, instructing the primary BS' searcher receiver to output (i.e., return to the initiating request message source) the detected target mobile station 140 transmitter CDMA pilot channel offset signal and their corresponding delay spread finger (peak) values and related relative signal strengths." (Karr, paragraph 0224)

In paragraph 0224, Karr teaches that signal fingerprinting requires the sending of multiple "needed" control messages. In Karr, the first control message is used to instruct the

target mobile station to telemeter its BS pilot measurements back to the primary base station. The second control message is sent from the location system 42 (not found in a diagram of Karr) to the mobile switch center instructing the primary BS' searcher receiver to output the detected target mobile station transmitter CDMA pilot channel offset signal and the spread finger values and related relative signal strengths.

Applicant notes that Karr fails to teach receiving a "query which includes a request for call data and location data" as recited in Claim 6. Although Karr sends a first control message to provide BS pilot measurements, Karr does not request call data and location data. Applicant admits that Karr requests information which may be useful in determining location information (BS pilot data) but, Karr does not request the actual location data and Karr fails to request call data along with the location data. Instead, Karr instructs the mobile station to telemeter its BS pilot channel measurements. Applicant submits that BBS pilot channel measurements are neither call data not location data.

Further, Karr fails to teach transmitting the actual "location data and the call quality metric to the mobile switch center in response to the request" as recited in Claim 6. Since Karr never receives a request for call data and location data, it cannot respond. Whereas the first control signal of Karr asks for BS pilot measurements from the MS station, and the second control message instructs a BS' to transmit the detected target mobile station transmitter CDA pilot channel offset signal, Karr never teaches that the mobile station itself transmits location data and call quality metric data together in response to a request for call data and location data as is recited in Claim 6. Karr simply fails to teach the specific request for call data and location data as well as a transmittal of location data and call quality metric content as does Claim 6. Instead, Karr teaches other functionality related to the processing of determining location using signal fingerprinting.

Whereas Claim 6 recites that the location system within the handheld mobile telephone unit receives a query for call data and location data and responds accordingly, Karr instructs the sending of control signal measurements which eventually may be useful in determining multiple location estimates in the Karr signal fingerprinting scheme.

Thus, Applicant respectfully submits that Karr does not disclose the functionality of a location system, within the handheld mobile telephone unit carried by the subscriber that:

“receives a query originating from a mobile switch center which communicates with a base station, wherein the query includes a request for call data and location data, wherein the location data comprises a location of the subscriber handheld mobile telephone unit in compliance with E911 requirements; and transmits the location data and the call quality metric to the mobile switch center in response to the request, wherein the location data and the call quality metric is for use in analyzing performance of the wireless communication network” as recited in Claim 6. Since Karr fails to explicitly teach the above elements of Claim 6 and since Karr teaches a different technique, then Karr cannot anticipate Claim 6 and its dependent Claims 7-8.

Accordingly, Applicant respectfully requests withdrawal of the 35 U.S.C §102(e) rejection of Claims 6-8 because several elements of independent Claim 6 are not taught. Claim 6 thus patentably defines over the cited art.

Claim Rejections Pursuant to 35 U.S.C. §103 (a)

Claims 9 and 23-25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Published PCT International Application WO 99/12228 to Watson in view of US Pat Publication No. 2001/0022558 to Karr and in further view of U.S. Patent No. 6,970,702 to Martin. Applicant respectfully traverses the rejection.

The present application at paragraph 0017 states, in relevant part:

“Embodiments of the invention, described below, use the location of a mobile unit in a wireless network when providing operational performance information. A performance engineer then tunes the system for optimal performance *without traditional drive testing*. In one embodiment, mobile units are equipped with a location system that calculates the absolute location of the mobile unit. The location system may include Federal Communications Commission ("FCC") mandated enhanced 911 ("E911") technology. The mobile unit is further equipped with a performance monitoring system that responds to requests for performance information from a switch. A performance engineer formulates a query or request for information, which may include selected mobile units, selected geographical areas and selected time periods. *The query further specifies the data requested. The mobile units implicated by the query respond by*

sending the performance data and location data to the switch. The performance data and location data are linked. The linked performance data and location data are processed and analyzed in real-time to give a very accurate representation of network performance from the subscriber's point of view. Network parameters can be changed on the fly as data is analyzed, and the results of adjustments can be quickly observed.” (Present Application, Paragraph 0017)

Watson discloses an apparatus and methods for automated testing of wireless communications system (title). As can be seen by Figure 2 of Watson, the teaching involves the use of a non-handheld, non-subscriber “responder” unit 42 that is specifically mounted in a vehicle. As described by Watson on page 5 lines 18-29:

“In the preferred embodiment, the responders are of sufficiently small size so as to readily fit *within a typical automobile trunk*, and are more particularly preferred to be substantially smaller than the volume of the trunk, preferably less than one cubic foot. In this way, *the responders may be placed in vehicles* which are not dedicated to the testing function, but have a independent purpose. For example, responders may be included in vehicles that cover regular, thorough routes, such as postal or public transit vehicles, or in vehicles which cover relatively regular routes with some degree of variation, such as delivery vehicles, or in vehicles which cover random routes, and may go into and out of the service area, such as taxis, or vehicles owned by the wireless service provider. *While the responders typically would be located within a mobile vehicle, at least certain of the responders within a system may be immobile without varying from the invention described herein.*” (Watson 18-29)

Thus, Watson contemplates placing “responders” in motor vehicle trunks or as immobile units. As such, Watson specifically teaches away from the use of a “responder” function in a subscriber handheld mobile telephone unit as expressed in Claim 9.

Further, Watson explicitly describes the form and function of the “responder”. Figure 4 of Watson depicts that the responder 42 is designed for use in a vehicle trunk (See Figure 4 and page 10, lines 8-10.) In viewing Figure 4, it becomes clear to one of skill in the art that the responder unit is not intended for direct subscriber handheld use because the keyboard of

the telephone component inside the responder 42 is inaccessible when the unit is assembled and installed in a vehicle for operation. Also, Figure 4 depicts that an internally installed mobile telephone is positioned in a first compartment 94 and a separate responder electronics compartment 96 exists for the location determination electronics, which may optionally contain a global positioning system board (page 10, lines 17-25.). Thus, the mobile telephone and GPS equipment are separate items.

Applicant concludes that Watson teaches an automated method of testing wireless communications systems that relies on a “responder” unit that is kept in a vehicle trunk. The Watson responder unit is inaccessible to an actual subscriber, although the responder unit in the vehicle trunk is mobile, it is clearly not a subscriber handheld unit. The Watson responder unit has, among other things, a mobile telephone unit that is separate from a GPS daughter board external to the mobile telephone, all of which is sealed in a box to fit into a vehicle trunk. These driving characteristics of Watson teach away from the invention of Claim 9 that features a handheld mobile telephone unit that has a location system internal to the handheld mobile telephone unit which is hand-carried by a subscriber. Watson clearly teaches a large, non-hand-carried, vehicle-trunk-stored responder unit that is inaccessible to an actual subscriber. Thus, Watson teaches away from the invention of Claim 9 which claims a handheld mobile telephone unit.

Some of the major teachings of Karr are mentioned above. Overall, Karr teaches, as its title implies, wireless location using signal fingerprinting. As such, Karr does not use GPS as does Watson. Instead, Karr focuses its teaching on the successful use of a non-GPS location determination method; the well-known signal fingerprinting method. Thus, if Watson were modified by Karr, then one would take for granted that the signal fingerprinting method of Karr would replace the GPS system of Watson because Watson is modified by Karr. This would change the principle of operation of Watson which, by itself, relies on GPS as the location mechanism. This change in principle of operation of GPS-based operation in Watson by the addition of non-GPS based location determination by Karr violates MPEP §2143.01 Part VI which states that the proposed modification cannot change the principle of operation of a reference. Since adding the non-GPS system of Karr to the teaching of GPS-

based teaching of Watson changes the GPS-based principle of operation of Watson, then the combination of Watson and Karr is impermissible under MPEP §2143.01 Part VI.

As further clarification, remember that the present specification at paragraph 0017 indicates that the communications system can be tuned for optimal operation “without traditional drive testing.” Watson teaches traditional drive testing using GPS-augmented “responder” units. Karr teaches wireless handset location using signal fingerprinting. The current invention represents a system and method to “tune” the communications system without drive testing. Not only does Watson, by itself, teach away from the current invention, but the addition of Karr to Watson changes the principle of operation of Watson, which, even after the principle of operation change, continues to teach away from the current invention.

Martin teaches a system for and method of cellular telephone system monitoring including a cellular switch which is remotely accessed and placed in a call monitor mode. A GPS receiver is connected to a mobile telephone via an interface unit. Call performance information (e.g., signal strength, BER and call events) are recorded at the switch and downloaded to a remote computer that includes a display. GPS location information is transmitted by the mobile telephone and received by the remote computer via the switch. The computer receives and stores the recorded call and GPS information and graphically displays this information, along with a map indicating the location of the mobile telephone. Preferably, the call information is first parsed, converted and/or scaled to conform to a standard file format. (Abstract).

Also, Martin teaches, in Figure 2, that the mobile telephone 14 is separate from the GPS equipment and is interconnected using an external interface unit 18.

Applicant notes that Watson is a GPS-based system. The addition of Karr transforms Watson into a non-GPS based, signal fingerprinting-based system for location determination and system testing. The further addition of Martin transforms the system back into a GPS-based test system which violates the principle of operation of Karr which is based on signal fingerprinting. Thus, the addition of Martin to Karr changes the principle of operation of Karr in violation of MPEP §2143.01 Part VI. Even considering this flip-flop of operating principles, Watson still teaches away from the current invention because Watson represents a

traditional drive testing implementation whereas the pending claims do not rely on a driving based testing system.

In addition, the present Office Action dated 12/20/06 on page 6 cites Watson page 11, lines 15-28 to teach the Claim 9 elements of “storing the call data, the location data, and the link in a server; and accessing the server to retrieve the call data, the location data, and the links”. Applicant respectfully disagrees that Watson teaches these elements.

Watson on page 11, line 15-28 describes a block diagram of the responder electronics. Applicant respectfully submits that the responder, which the Office Action equates to the subscriber handheld mobile telephone unit cannot also be the server that is accessed to retrieve call data, location data, and links as recited in Claim 9. Bluntly, Watson discloses no server as recited in Claim 9. Also, Watson says nothing about storing call data or a link in a server. Watson teaches nothing about then accessing the call data, location data, and links as recited in Claim 9. Thus, Watson fails to teach or suggest the Claim 9 element of “accessing the server to retrieve the call data, the location data, and the links” on page 11, lines 15-28.

Since the combination of Watson, Karr, and Martin does not teach all of the elements of independent Claims 9 and 23, and since Watson teaches away from the claimed invention, and since the combination of Watson, Karr, and Martin violates MPEP §2143.01 Part VI such that a prima facie case of obviousness cannot be properly formed, then Watson, Karr and Martin cannot render obvious the pending claims under 35 U.S.C. §103(a).

Applicant respectfully requests withdrawal of the 35 U.S.C §103(a) rejection of Claims 9 and 23-25 because the combination of Watson, Karr and Martin violates MPEP §2143.01 Part VI, there is no motivation to combine there references because Watson teaches away, and because all of the elements of the pending claims are not taught by the cited references. Applicant respectfully notes that any one of these three reasons, if taken alone, is sufficient to negate a prima facie case of obviousness under 35 §103(a) formed by the combination of Watson, Karr, and Martin.. Thus, these three reasons for non-obviousness, taken together, make clear that the pending claims patentably define over the cited art.

Claims 10 and 11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Published PCT International Application WO 99/12228 to Watson in view of US Pat

DOCKET NO.: CING-0685/553.US
Application No.: 10/090,265
Office Action Dated: December 20, 2006

**PATENT
REPLY FILED UNDER EXPEDITED
PROCEDURE PURSUANT TO
37 CFR § 1.116**

Publication No. 2001/0022558 to Karr and in view of U.S. Patent No. 6,970,702 to Martin and in further view of U.S. Patent No. 6,741,843 to Kalliokulju. Applicant respectfully traverses the rejection.

Kalliokulju teaches a method and arrangement by means of which a mobile station operating in a cellular network measures and indicates the field strength of a signal sent by a base station. From the measured signal it is calculated a virtual field strength (Pvr) on the basis of which it is determined whether the desired service can be used at that field strength. (Abstract).

Applicant submits that the combination of Watson, Karr, and Martin, as noted above cannot be made to be a prima facie case of obviousness because the teachings of Karr change the principle of operation of Watson, where Watson actually teaches away from the pending claims. The addition of Kalliokulju does not change that result. Thus, the combination of Watson, Karr, Martin, and Kalliokulju cannot be combined properly under MPEP §2143.01 Part VI to form a prima facie case of obviousness because Karr changes the principle of operation of Watson, and Watson continues to teach away from the pending claims. Applicant respectfully requests withdrawal of the 35 U.S.C. §103(a) rejection of Claims 10 and 11.

DOCKET NO.: CING-0685/553.US
Application No.: 10/090,265
Office Action Dated: December 20, 2006

**PATENT
REPLY FILED UNDER EXPEDITED
PROCEDURE PURSUANT TO
37 CFR § 1.116**

Conclusion

Applicant respectfully requests withdrawal of the rejections in light of the arguments and amendments provided above. A Notice of Allowance is respectfully requested for all pending claims because these claims patentably define over the cited art as pointed out in the discussion above.

Respectfully Submitted,

Date: February 20, 2007

/Jerome G. Schaefer/

Jerome G. Schaefer
Registration No. 50,800

Woodcock Washburn LLP
Cira Centre
2929 Arch Street, 12th Floor
Philadelphia, PA 19104-2891
Telephone: (215) 568-3100
Facsimile: (215) 568-3439